

Table 3-7b
Development of Risk-Based Concentrations for Upland Soil
California Vole
Investigation Area H1 Feasibility Study
Mare Island, Vallejo, California

$$RBC_{soil} = BW \times TRV \times HQ / [[(IR_{prey} \times BAF) + IR_{soil}] \times SUF]$$

COEC ^a	Plant Tissue BAF ^b	TRV (mg/kg BW-day)		RBC-Soil (mg/kg)	
		Low	High	TRV-Low	TRV-High
Inorganics					
Antimony	--	0.06	23.4	13.1	5184
Arsenic	--	0.32	4.70	70.9	1041
Cadmium	--	0.06	2.64	13.3	585
Chromium	--	2.40	23.10	532	5118
Cobalt	--	1.20	20.00	266	4431
Copper	--	2.67	632	592	139921
Lead	1.21E-02	1.00	241	147	35453
Manganese	2.89E-02	13.7	159	1376	15974
Mercury	--	0.25	4	55.4	886
Molybdenum	3.47E+00	0.26	2.6	0.40	4.0
Nickel	--	0.133	31.6	29.5	7001
Selenium	--	0.05	1.21	11.1	268
Silver	--	0.375	3.75	83.1	831
Thallium	--	0.48	1.43	106	317
Vanadium	--	0.21	2.10	46.5	465
Zinc	1.11E-01	9.60	411	379	16222
Organics					
PCBs	1.99E-01	0.36	1.28	8.6	30.6
DDTs	1.50E+01	0.8	16	0.28	5.7
Benzo(a)anthracene	--	NTV	NTV	--	--
Benzo(a)pyrene	--	1.31	32.8	290	7267
Benzo(b)fluoranthene	2.57E-01	NTV	NTV	--	--
Benzo(k)fluoranthene	--	NTV	NTV	--	--

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Exposure Assumptions and Equation:^c

	Value	Units	
IRprey(dry wt.) =	0.00841	kg/day (dry weight)	-- = Not available
IRplant (dry wt.) =	0.00841	kg/day (dry weight)	NTV = No toxicity value
IRsoil (dry wt.) ^d =	0.0002018	kg-day (dry weight)	
Site Use Factor ^e =	100%	percent	
Body Weight =	0.04	kg	
Hazard Quotient (HQ) =	1	unitless	

Notes:

- a - Constituent of ecological concern.
- b - Dry weight basis plant BAFs are presented in Table 3-6a.
- c - Exposure parameters used to calculate risk are discussed in detail in the BERA.
- d - Ingestion rate of sediment based on 2.4 percent of of the prey ingestion rate (dry weight); based on a meadow vole (Beyer et al.
- e - Site use factor was based on a conservative 100% use of the site for the California vole's foraging range.